

## SECTOR MUTUAL FUNDS - A STUDY ON PERFORMANCE MEASUREMENT AND EVALUATION WITH SPECIAL REFERENCE TO TECHNOLOGY FUNDS

SHESHRAO MARUTI<sup>1</sup> & WAGHAMARE SHIVAJI<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Commerce, Gulbarga University, Gulbarga, Karnataka, India

<sup>2</sup>Professor, Department of Commerce, Gulbarga University, Gulbarga, Karnataka, India

### ABSTRACT

Mutual funds have emerged as a strong financial intermediary and are the fastest growing segment of the financial services sector in India. Mutual funds play a very significant role in channelizing the savings of millions of individuals. In this context an attempt has been made by the researcher to examine the growth, risk-return pattern of the mutual fund industry with regard to sector mutual funds. Thus, the study examined entire technology mutual funds over a period of 05 years from 2008-09 to 2012-13. Accordingly, funds have been ranked by taking into account their performance measures using Beta, Sharpe and Treynor's Index. Thus, a fund that scored the highest of the average of the said parameters has been ranked as the best and same method has been adopted in ranking the rest of the funds.

**KEYWORDS:** Mean Return, Standard Deviation, Beta, Sharpe, Treynor's

### INTRODUCTION

All rationale human beings first focus to cover their basic needs food, cloth and shelter. After having been done so, they may endeavour to save money and make them to grow over a period of time to protect their future. To make their money saved to grow over a period of time, they have plethora of investment avenues with their distinct risk-return characteristics. All investment avenues differ from one another and hence all are not equally attractive or disattractive. In addition to it investor with capabilities to invest in their own capacity can choose direct avenues of investment others may choose indirect vehicle or investment such as mutual fund. There are galore of mutual fund schemes available for investment for those who want to channelise their saving via mutual fund scheme ranging from money market mutual fund schemes to sector funds suiting well to the requirements varied investors on the basis of risk return appetite of investors. Of them, sector funds are those funds whose investment portfolio is tilted more towards stocks of specified sectors. Thus, sector funds are highly focused on a particular industry. The basic objective is to enable investors to take advantage of industry cycles. Since sector funds ride on market cycles, they have the potential to offer good returns if the timing of entry and exit is perfect. Thus, sector mutual funds are a good investment option for aggressive and active investors who are willing to bear risks and volatility of funds.

Most of the investment companies refrain form offering sector funds as they are very much seasonal in nature. They perform well only after a specific cycle. Also, these funds do not provide any diversification of investment portfolio making even more risky for investment as it implies putting all eggs into a single basket. It all depends upon the skills and expertise of the fund managers as to how well they make instant and correct decisions can make the investment profitable even during adverse times. Investors who are considering sector funds should be prepared to accept greater risk and volatility than what they will endure in the broad-based funds and index funds. The various sectors of the United States economy have historically had higher highs and lower lows than the economy as a whole. But sectors do perform differently at various points in the overall economic cycle. Some sectors do well in bullish market but poorly in bearish

market, while others can grow earnings even during sluggish periods and recessions as FMCG sector.

Technology sector will invest in a wide range of technology-related companies, including anything associated with the research, development and use of computers, software, communications, the internet, semiconductors and other segment of technology. The technology sector is a relatively new corner of the market, and did not come into its own until the 1990s. Technology funds had their heyday in the late 1990s, when many of them reaped enormous gains from 1996-1999, and then flamed out spectacularly in the following years. Some funds posted astronomical losses, while others, such as the Alliance Technology fund, became embroiled in the accounting scandals that went hand-in-hand with the market decline. Benchmark indices have been created in the technology sector in recent years, such as BSE Teck and BSE Infotech.

In terms of investment objectives, technology funds serve only one purpose i.e., growth. Even value investors should stay away from this sector, as it is not mature enough to offer significant holdings in this category. Technology funds are also clearly not appropriate for conservative investors or those seeking income. Tax-conscious investors should also carefully consider the capital gains distributions that will result from high portfolio turnover. However, those investors who are seeking long-term, aggressive growth holdings for their portfolios would be wise to consider a fund in this category.

The present paper is divided into IV sections. **Section-I** deals with the Review of Literature concerning the present study area to trace out the research gap to set the objectives of the study and to enumerate scope of the study; **Section-II** deals with research design of the present study which embraces methodology, evaluation parameters used for the study, also enumerate drawbacks of the study and factsheet of the AMC's; **Section-III** deals with Results and Discussion which aims at making systematic performance measurement and evaluation of sector mutual funds by choosing and implementing appropriate mutual fund portfolio performance measures and it also includes a juxtaposition between funds portfolio index and benchmarked portfolio index, to know over performance or under performance of chosen Technology sector mutual funds; and in **Section-IV** a sincere attempt is made by the researcher to present summary of findings and the inferences drawn thereupon.

## **REVIEW OF LITERATURE**

Mutual Fund performance always created a huge amount of interest among investors, practitioners and academicians. At the same time, huge literature is available in the field of performance evaluation all over the world. A few of them, is reviewed in this section.

**Fama (1972)<sup>1</sup>** advocated another methodology for mutual fund performance evaluation with detail breakdown of overall performance into four components, risk free return, return expected due to risk assumed, net selectivity and diversification.

**Sarkar (1991)<sup>2</sup>** critically examined mutual fund performance evaluation methodology and pointed out that Sharpe and Treynor's performance measures rank mutual funds similarly on performance inspite of their differences in methodology.

**Shah and Thomas (1994)<sup>3</sup>** evaluated the performance of 11 mutual fund schemes and reported negative returns in all schemes during the study period.

**Statman, Meir (2000)<sup>4</sup>** emphasizes that, socially responsible investing has to be taken as a tool by the corporations. They further identified that, socially responsible stocks out-performed while socially responsible mutual funds

under-performed the S&P 500 Index during 1990-98.

**Gupta Amitabh (2001)**<sup>5</sup> evaluated the performance of 73 selected schemes with different investment objectives, both from the public and private sector using Market Index and Fundex.NAV of both close-end and open-end schemes from April-1994 to March-1999 were tested.The sample schemes were not adequately diversified, risk and return of schemes were not in conformity with their objectives, and there was no evidence of market timing abilities of mutual fund industry in India.

**Gupta and Amitabh's (2004)**<sup>6</sup> study assessed the investment performance of 57 growth schemes for the period April-1999 to March-2003.With the application of different evaluation measures like Sharpe, Treynor and Jensen apart from a regression analysis, the study found no conclusive evidence suggesting the point that the performance of sample mutual funds was superior to the market but some funds did perform better.

**Acharya and Sidana (2007)**<sup>7</sup> attempted to classify hundred mutual funds employing cluster analysis and using a host of criteria like the 1 year total return, 2, 3, 5 years annualized return, alpha, beta, R-squared, Sharpe's ratio, mean and standard deviation etc.,The data is obtained from Value research online.They do find evidences of inconsistencies between the investment style / objective classification and the return obtained by the fund.

**Debasish (2009)**<sup>8</sup> studied the performance of selected schemes of mutual funds based on risk and return models and measures.The study covered the period from April 1996 to March 2005 (nine years).The study revealed that Franklin Templeton and UTI were the best performers and Birla Sun Life, HDFC and LIC mutual funds showed poor performance.

**Kalpesh, Mahesh (2012)**<sup>9</sup> evaluated that the performance evaluation of Indian mutual funds is carried out through relative performance index, risk-return analysis, Treynor's ratio, Sharpe's ratio, Sharpe's measure, Jensen's measure and Fama's measure.The data used is daily closing NAVs.The source of data is website of Association of Mutual Funds in India (AMFI).The study period is 1<sup>st</sup> Jan 2007 to 31<sup>st</sup> Dec 2011.The results of performance measures suggest that most of the mutual fund have given positive return during 2007 to 2011.

From the above studies it can infer that, several studies have been undertaken on performance measure in India as well other parts of the world.But, no one considered technology funds in measuring the performance of mutual funds. Hence, this has prompted us to undertake the study on performance evaluation of entire technology mutual funds in India.

## Objectives of the Study

The major objectives of the study are as follows;

- To know the risk and return associated with the technology funds.
- To measure the performance of technology mutual funds, using risk adjusted measures suggested by Sharpe and Treynor's.
- To analyze the performance of Asset Management Companies with that of Technology index, using ranking method; and
- To offer feasible suggestions in the light of findings.

## Scope of the Study

Mutual fund is a very wide area in the investment and it is not an easy task to cover all aspect in the mutual fund schemes, of all those schemes researcher intends to undertake only Technology fund as a whole to know the performance

level, whether it is outperforming or underperforming. Thus, the study is restricted to cover only on technology mutual funds for performance evaluation and this is a part of sector fund in equity scheme.

## **RESEARCH DESIGN**

### **Methodology**

The present study is purely based on secondary data. In order measure the performance of technology funds, following methodology has been adopted. In the first instance, entire technology mutual funds (i.e., Birla Sun Life New Millennium, DSPBR Technology.com Reg., Franklin Infotech, ICICI Prudential Technology Reg and SBI IT) in existence for at least five years have been selected for the purpose of evaluation and then closing value monthly Net Asset Value (NAVs) from 2008-09 to 2012-13 (April-March) have been extracted from respective web sites of Asset Management Companies (AMC's) and Association of Mutual Funds in India (AMFI). S&P BSE TECK and BSE IT returns are considered as benchmark returns to measure the performance of technology mutual funds. Then, Mean return, Standard deviation ( $\sigma$ ) and Beta ( $\beta$ ) were tabulated for respective schemes to know their actual Earnings, Risk and Volatility. In the next step, funds have been ranked, by taking into account their performance measures using Sharpe and Treynor's Index. Thus, a fund that scored highest of the average of the said parameters have been ranked as the best and same methods have been adopted in ranking the rest of the funds. Then, for the analysis purpose, 91-days Treasury bill has been used as a proxy for risk free rate of return. Accordingly, inferences have been drawn and suggestions have been made for the benefit of the investors.

### **Evaluation Parameters**

Following parameters have been used to evaluate the performance to said Asset Management Companies (AMCs).

#### **Net Asset Value (NAV)**

It is the amount which a unit holder would receive if the mutual fund were wound up. An investor in mutual fund is a part owner of all its assets and liabilities. Returns to the investor are determined by the interplay of two elements Net Asset Value and Costs of Mutual fund. Net Asset Value is the mutual fund's calling card. It is the basis for assessing the return that an investor has earned. Mutual funds sell their shares to the public and redeem them at current NAV, which is calculated as under;

$$\text{NAV} = \frac{\text{Net asset of the scheme}}{\text{Number of units outstanding}} \quad (1)$$

Where net asset of the scheme is defined as;

$$\begin{aligned} \text{Net Assets of the scheme} &= \text{Market value of investment} + \text{Receivables} + \text{Other accrued income} + \text{Other assets} \\ &\quad - \text{Accrued expenses} - \text{Other payables} - \text{other liabilities} \end{aligned}$$

### **Risk Free Rate**

A risk less asset has zero variability of returns. If an investor buys an asset at the beginning of the holding period with the known terminal value, such type of asset can be called as risk-less or risk free asset. Government securities and nationalized bank deposits fall under this category. In this study, 91-days Treasury bill have been extracted from respective monthly SEBI Bulletins and used as a proxy for risk free rate of return.

**BSE TECK**

The BSE-TECK is a stock index constituted of companies in the Information Technology, Media and Telecom sectors. It tracks the performance of TMT sectors through a basket of 21 quality stocks. The BSE TECK Index provides a quality benchmark for the investment community in the knowledge-based sectors. The Base Date for BSE TECK Index is April 2, 2001. The Base Value for BSE TECK Index is 1000 points. The BSE TECK Index is calculated on the basis of free-float market capitalization method.

'TECK' stands for the following:

- T -Technology (BSE Sector: Information Technology),
- E -Entertainment (BSE Sector: Media & Publishing),
- C -Communication (BSE Sector: Telecom),
- k -Other Knowledge based companies not falling in any of the above three sectors.

**BSE Infotech**

This index consists of frontline IT stocks such as Infosys, Wipro, TCS and major companies in the IT sector. IT stocks are considered to be a high Beta ( $\beta$ ) stock. The prices of IT stocks clash with American Depository Receipt (ADR) as the changes in ADR price movement can have an impact on the prices of these stocks. The movement of the rupee against major currencies especially the dollar, can affect this indeed either positively or negatively.

**Standard Deviation ( $\sigma$ ):**

Standard deviation is a measure of total risks of a fund. In mutual fund the standard deviation tells us how much the return on fund is deviating from the expected normal returns. Standard deviation can be calculated as the square root of the variance symbolically, it is represented as under;

$$\text{Variance} = \frac{1}{n-1} \sum_{t=1}^n (R_t - \bar{R})^2$$

Where;

$n$  = Number of Observations

$\Sigma$  = Sum of Observations

$R_t$  = Rate of Return

$\bar{R}$  = Average rate of return.

$$\sigma = \sqrt{\text{Variance}} \quad (2)$$

**Beta ( $\beta$ )**

Beta is calculated using regression analysis, and beta as the tendency of a security's returns to respond to swings in the market. A beta of 1 indicates that the security's price will move with the market. A beta of less than one means that the security will be less volatile than the market. A beta of greater than one indicates that the security's price will be more volatile than the market.

$$\beta = \frac{n\sum XY - (\sum X)(\sum Y)}{n\sum X^2 - (\sum X)^2} \quad (3)$$

### Sharpe Model

William F. Sharpe (1966) devised an index of portfolio performance measure, referred to as reward to variability ratio. In this model, performance of a fund is evaluated on the basis of Sharpe ratio, which is the ratio of returns generated by the fund over the risk free rate of return and the total risk associated with it. According to Sharpe, it is the total risk of the fund that investors are more concerned about. So, the model evaluates funds on the basis of reward per unit of total risk. Symbolically, it can be written as;

$$\text{Sharpe Index } (S_p) = \frac{(R_p - R_f)}{\sigma_p} \quad (4)$$

Where,  $R_p$  = Portfolio average return,  $R_f$  = Return on risk free investment,  $\sigma_p$  = Standard deviation of portfolio

### Treynor's Model

Developed by Jack Treynor (1965), this performance measure evaluate funds on the basis of Treynor Index. This index is a ratio of return generated by the fund one and above the risk free rate of return (generally taken to be return on the securities backed by the government) during a given time period and the systematic risk associated with it is measured by Beta. This is called a reward to volatility ratio. Symbolically, it can be represented as;

$$\text{Treynor's Index } (T_p) = \frac{(R_p - R_f)}{\beta_p} \quad (5)$$

Where,  $R_p$  = Portfolio average return,  $R_f$  = Return on risk free investment,  $\beta_p$  = Slope of the characteristic line.

### Drawbacks of the Study

Following are the drawbacks of the study;

- Research was conducted only for the past five years.
- The analysis is based on historical data and thus indicates the past performance which may not always be indicative of the future performance.
- Evaluation is based on only two measures like Sharpe and Treynor.

Before putting fingers on every pie of AMC's, it is necessity to makes humble and nimble beginning with factsheet of entire technology sector AMC's which deals with all dimensions succinctly. The following table no. 1 shows the factsheet of entire technology fund Asset Management Company's which carried for the present study.

**Table 1: Factsheet of AMCs**

Fund Name	Investment Objective	Launch Date	Benchmark	Min. Investment	Exit Load
Birla Sun Life New Millennium	The fund seeks capital growth, with a secondary objective of income generation with focus on technology and technology dependent companies.	15.01.2000	S&P BSE Teck	Rs.5000	1% for redemption within 365 days
DSPBR Technology.com	The scheme aims to invest in technology and technology	16.05.2000	S&P BSE Teck	Rs.5000	1% for redemption

Reg.	dependent companies which include: hardware, peripherals and components, software, telecom, telecommunications, media and entertainment, internet and e-commerce and other technology-enabled companies.				within 365 days
Franklin Infotech	The scheme seeks above normal capital appreciation through investments in high quality, fast growing companies in the information technology sector.	22.08.1998	S&P BSE IT	Rs.5000	1% for redemption within 365 days
ICICI Prudential Technology Reg	The scheme will seek long term capital appreciation by investing in equity and equity related securities of technology and technology dependent companies. A large share of the AUM will be invested in the stocks under the Benchmark Index, however, the scheme may also invest in other companies which form a part of Information Technology Services Industry.	Jan-2000	S&P BSE Teck	Rs.5000	1% for redemption within 365 days
SBI IT	The scheme seeks to provide maximum growth opportunities through investments in IT stocks.	July-1999	S&P BSE IT	Rs.2000	1% for redemption within 365 days

## RESULTS AND DISCUSSIONS

It deals with, data analysis and interpretation, wherein, the researcher has tabulated, analysed and interpreted the data obtained from the secondary sources by the way of respective websites of the AMC's, BSE indices and other websites.

Mainly the following evaluation parameters have been considered by the researchers for the study;

- Returns of the fund.
- Standard Deviation of the fund.
- Beta of the fund.
- Sharpe's Index.
- Treynor's Index.
- Ranking.

**Table 2: Returns of the Fund**

Scheme	2008-09	2009-10	2010-11	2011-12	2012-13	Total	Avg.	Average	
								BSE TECK	BSE IT
Birla Sun Life New Millennium	-4.958	6.475	0.792	-0.550	0.758	2.517	0.503	11.64	-
DSPBR Technology.com Reg.	-4.717	7.458	0.433	-0.833	0.992	3.333	0.667	11.64	-
Franklin Infotech	-2.758	7.425	2.017	-0.317	0.925	7.292	1.458	-	24.92
ICICI Pru. Technology Reg	-5.508	7.875	2.383	0.000	1.242	5.992	1.198	11.64	-
SBI Magnum IT	-6.067	8.217	1.783	0.075	1.092	5.100	1.020	-	24.92

**Source:** Tabulated data.

The table no. 2 reveals the Franklin Infotech has yielded 1.458 percent mean return to its investors followed by SBI Magnum IT has yielded 1.020 percent mean return to its investors, as compared to its benchmark BSE IT average values is 24.92 percent. While compared to BSE TECK value is 11.64 percent as benchmark return, ICICI Prudential Technology Reg. fund has yielded 1.198 percent when compare to its peers DSP BlackRock Technology.com fund and Birla Sun Life New Millennium have yielded 0.667 & 0.503 percent mean returns respectively. Hence, we can say that, Franklin Infotech and ICICI Prudential Technology funds are top funds in respect of return when it compared to its respective benchmark returns.

**Table 3: Standard Deviation of the Funds**

<b>Scheme</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>Average</b>
Birla Sun Life New Millennium	9.225	8.721	5.110	5.376	4.254	6.537
DSPBR Technology.com Reg.	9.223	7.736	4.983	4.616	4.486	6.209
Franklin Infotech	10.718	6.923	5.194	6.019	4.871	6.745
ICICI Pru. Technology Reg	10.098	6.869	5.102	6.375	4.107	6.510
SBI Magnum IT	10.772	9.071	5.150	5.954	5.038	7.197

**Source:** Tabulated data.

The table no. 3 depicts the Standard Deviation of the technology fund. Standard Deviation is used to measure the variability in returns over a period of time. The Standard Deviation of the funds lies between 6.209% and 7.197%. DSP BlackRock Technology.Com and ICICI Prudential Technology.Reg fund shows comparatively low fluctuations. So, these funds are best suited to an investor who is averse of risk.

**Table 4: Beta ( $\beta$ ) of the Funds**

<b>Scheme</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>Average</b>
Birla Sun Life New Millennium	0.921	1.060	0.883	1.065	0.850	0.956
DSPBR Technology.com Reg.	0.946	0.924	0.803	0.903	0.851	0.885
Franklin Infotech	0.916	0.981	0.944	0.962	0.876	0.936
ICICI Pru. Technology Reg	0.964	0.794	0.898	1.247	0.744	0.930
SBI Magnum IT	0.717	1.144	0.930	0.943	0.903	0.927

**Source:** Tabulated data.

The table no. 4 shows the Beta Values of technology mutual funds. Beta is the measure of systematic risk. It compares the sensitivity of a fund with movement in the market. From the above table, out of five technology funds, DSP BlackRock Technology.com fund is less volatile with a  $\beta$ -value of 0.885. On the contrary, SBI Magnum IT fund with a  $\beta$ -value of 0.927, followed by ICICI Prudential Technology with a  $\beta$ -value of 0.930 when compared to its counterparts Franklin Templeton fund and Birla Sun Life New Millennium fund which have more volatile with  $\beta$ -value of 0.936 and 0.956.

**Table 5: Sharpe's Value of the Funds**

<b>Scheme</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>Average</b>	<b>Rank</b>
Birla Sun Life New Millennium	-1.13157	0.28952	-1.13669	-1.79517	-1.74913	-1.10461	4
DSPBR Technology.com Reg.	-1.10555	0.45351	-1.23754	-2.15196	-1.60672	-1.12965	5
Franklin Infotech	-0.76865	0.50192	-0.88239	-1.56446	-1.49351	-0.84142	1
ICICI Pru. Technology Reg	-1.08815	0.57140	-0.82654	-1.42752	-1.69418	-0.89300	3
SBI Magnum IT	-1.07187	0.47037	-0.93524	-1.51567	-1.41083	-0.89265	2

**Source:** Tabulated data.

The above table no. 5 indicates the Sharpe's index of selected schemes. Lesser negative value than the market indicates better performance than the market. The above table depicts that, out of five technology funds Franklin Infotech fund, SBI Magnum IT fund and ICICI Prudential Technology Reg. funds have better performance when compared to rest of the other schemes.

**Table 6: Treynor's Value of the Funds**

Scheme	2008-09	2009-10	2010-11	2011-12	2012-13	Average	Rank
Birla Sun Life New Millennium	-11.33817	2.38277	-6.58020	-9.05888	-8.75133	-6.66916	3
DSPBR Technology. com Reg.	-10.77737	3.79816	-7.67713	-10.99979	-8.47427	-6.82608	4
Franklin Infotech	-8.99282	3.54146	-4.85634	-9.78951	-8.30784	-5.68101	2
ICICI Pru. Technology Reg	-11.40140	4.94068	-4.69666	-7.29525	-9.34960	-5.56045	1
SBI Magnum IT	-16.09421	3.72995	-5.17860	-9.56981	-7.87608	-6.99775	5

**Source:** Tabulated data.

Treynor's index measures excess return over risk free return per unit of systematic risk. All funds are not performed well, but out of the above funds, ICICI Prudential Technology.com (-5.56045) and Franklin Infotech (-5.68101) have performed well when compared to rest of the schemes.

## SECTION-IV

### SUMMARY OF FINDINGS AND CONCLUSIONS

#### Findings

On the basis of returns, standard deviation, beta, Sharpe, Treynor and Ranking the major findings were drawn as under;

- The returns of the fund, Franklin Infotech and ICICI Prudential Technology funds are top funds in respect of return when it compared to its respective benchmark returns.
- The Standard deviation of the funds lies between 6.209% and 7.197%. DSP BlackRock Technology.Com fund and ICICI Prudential Technology.Reg fund i.e., 6.209 and 6.510 show comparatively low fluctuations. So, these funds are best suited to an investor who is averse of risk.
- Out of all technology fund, DSP BlackRock Technology.com fund is less volatile with a  $\beta$ -value of .885, rest of the funds are found more volatile they lies between  $\beta$ -value from 0.927 to 0.956
- As per Sharpe's measure Franklin Infotech fund, SBI Magnum IT fund and ICICI Prudential Technology Reg. occupied I, II & III rank position, when compared to other Asset Management Companies under ranking based system.
- As per Treynor's measure ICICI Prudential Technology.com. and Franklin Infotech occupied I & II rank position, when compared to other AMCs under ranking based system.

## CONCLUSIONS

The plethora of schemes are available for investors to place their surplus with unique risk return characteristics. Among the available mutual fund schemes, sector mutual fund schemes are categorized as high-risk, high-return schemes appealing to such investors who possess high appetite towards risk and return. Such schemes are considered as good if their performance beats the benchmark performance otherwise, branded as distractive. So, investors who add sector funds to their portfolios should also be aware that timing of entry into specific sectors of the market can be riskier

and more difficult, yet don rightly rewards heavily. Results of the performance evaluation of chosen sector Information Technology (IT) funds revealed that none of them outperformed their benchmarked portfolios. Thus, the result revealed by both the measures are different this may probably due to poor diversification of portfolios.

In such cases it is better to base our evaluation on the basis of Sharpe's Index as it duly considers excess return per unit of total risk than in relation to only systematic risk as reflected by Treynor's Index. Hence, it can be inferred that IT sector funds at present have lost their charmness and past glory probably due to technology meltdown and IT sector may be at its elastic end point which warrants IT companies to focus on vortex of IT business so as to redefine, rethink their business. Results of this study which strongly refute established view point that IT assures better return. This may perhaps, provides the cue to investors that they should shift their investment from existing IT sector fund and move towards other sector funds such as FMCG, Infrastructure, Banking and Pharmaceutical fund which are at present appear to do well. It implies that investors need not remain sticky to IT sector fund. They can also think of withdrawing their investment into IT sector funds and proceeds of their disinvestment can be channelized towards other sector funds doing well right now such as FMCG funds, infrastructure, health sector, banking sector. Thus, diversification among sector funds may help such investors to improve their position that it covers one industry cycle. It can be inferred that, these conclusions of the authors are time and situation specific. As the deals of the time rolls over these IT sector funds may regain their past glory. If that happens, investors should sense it and switch back to IT sector funds.

## REFERENCES

1. Acharya, Debasish, Sidana & Gajendra. (2007). Classifying Mutual Funds in India: Some results from clustering. Indian Journal of Economics and Business. 6(1), 71-79.
2. Debasish, & Sathya, S. (2009). Investigating Performance of Equity-based Mutual Fund Schemes in Indian Scenario. KCA Journal of Business Management. 2(2), 1-15.
3. Fama, E.F. (1972). Components of investment performance. Journal of Finance, No. 27, 551-56.
4. Gupta & Amitabh. (2001). Mutual Funds in India: A Study of Investment Management. Finance India. XV (2), 631-637.
5. Gupta, O.P., Gupta & Amitabh. (2004). Performance Evaluation of Selected Indian Mutual Fund Schemes: Empirical Study. The ICFAI Journal of Applied Finance. 10(3), 81-98.
6. Kalpesh, P.P., & Mahesh, K.P. (2012). Comparative Study on Performance Evaluation of Mutual Fund Schemes of Indian Companies. International Refereed Research Journal. 3(3), 47-59.
7. Sarkar, A.K., (1991). Performance Evaluation of Mutual Funds. Management Accountant. 9, 691-693.
8. Shah & Thomas, S. (1991). Performance evaluation of Professional Portfolio management in India. A paper prepared by CMIE.
9. Statman, & Meir (2000). Socially Responsible Mutual Funds. Journal of Financial Analysts. 56 (3), 30-38.\
10. <http://finance.yahoo.com/q/hp?s=103168.BO+Historical+Prices>
11. <http://www.amfiindia.com/navreport.aspx>
12. <http://www.bseindia.com/indices/IndexArchiveData.aspx>
13. <http://www.icai.org.in/#>

14. [http://www.indianmba.com/Occasional\\_Papers/occasional\\_papers.html](http://www.indianmba.com/Occasional_Papers/occasional_papers.html)
15. [www.sebibulletin.com](http://www.sebibulletin.com)
16. [www.valueresearchonline.com](http://www.valueresearchonline.com)

## APPENDIES

**Table 7: Calculation of BSE TECK and BSE Infotech as Benchmark**

Year	BSE TECK			BSE Infotech (IT)		
	Close	Total	Average	Close	Total	Average
2007-08	3024.13			3547.61		
2008-09	1846.83	-38.90		2285.68	-35.60	
2009-10	3280.12	77.60		5237.50	129.10	
2010-11	3856.15	17.60		6548.10	25.00	
2011-12	3562.41	-7.60		6081.87	-7.10	
2012-13	3900.94	9.50		6885.46	13.20	
	Total	58.20	11.64		124.60	24.92

